

### **Abstract**

A method and apparatus for measuring wafers, thin films, or other planar layers are disclosed. This invention utilizes a tunable, monochromatic light source reflected from or transmitted through the layer to be measured. The wavelengths of light are selected such that the light is partially transmitted through the material to be measured so as optical interference is seen among the interfaces of the layer(s). The wavelengths are also controlled to sufficiently small increments to resolve these interference features. This apparatus relates to the need to monitor wafer thinning, film deposition, and other semiconductor device related processes.